

Remarks/Arguments

In the Final Office Action,

1. Claims 40, 41, 47, 48, 50, 52, 54, 55, 61 and 62 are rejected under 35 USC 102(b) as being anticipated by US Patent 6,191,809 to Hori et al. ("Hori");
2. Claims 46, 48, 53, and 60 are rejected under 35 USC 103(a) as being unpatentable over Hori as applied to claims 40 and 48 above, and further in view of US Patent 5,315,630 to Sturm et al. ("Sturm"); and
3. Claims 42-45, 51, and 56-59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As a preliminary matter, the Specification has been amended to update the status of the parent to this application. No new matter has been added.

Claim 40 has been amended to include the limitations of objected to claim 42, and with such amendment, claim 40 and its dependent claims 43-45 are believed to be patentable under 35 USC 102(b) over Hori, as well as under 35 USC 103(a) over Hori in light of Sturm. Claims 41, 42 and 46-47 have been cancelled.

Likewise, claim 54 has been amended to include the limitations of objected to claim 56, and with such amendment, claim 54 and its dependent claims 55 and 57-62 are believed to be patentable under 35 USC 102(b) over Hori, as well as under 35 USC 103(a) over Hori in light of Sturm. Claim 56 has been cancelled.

Claim 48 has been amended to indicate that the target object is at a surgical site, and the maintaining of the selected working distance of the endoscope is performed “by periodically repeating the acts of capturing right stereoscopic image pixel information, capturing left stereoscopic image pixel information, calculating a first line position, calculating a second line position, selecting a portion of the first array and a portion of the second array, and outputting an aligned stereoscopic image.”

Neither Hori nor Sturm discloses a method of aligning left and right stereoscopic images that maintains the working distance (i.e., the distance between a fixed point of intersection between two viewing axes and an object viewing end of the endoscope) by periodically repeating the specified actions in claim 48 as part of a method for aligning left and right stereoscopic images.

Hori corrects misalignment of stereo images generated by solid state imaging devices in electronic video cameras using a calibration target “T” from which size, rotation, vertical and horizontal offsets can be calculated. See Col. 7, line 1 to Col. 8, line 32. Once calibrated, the target may be removed, and the video camera may then be used with a computer applying the calculated correction factors to dual-port memory readout sequence generators 38R and 38L. Thus, Hori does not use an object at the surgical site for aligning left and right stereoscopic images (it uses a calibration target such as shown in its FIG. 8) for aligning left and right

stereoscopic images, and it does not maintain a working distance by periodically repeating the specified actions in claim 48.

Sturm also characterizes its sensors 34 and 36 just once and uses the determined “internal camera parameters” for correcting alignment errors. See Col. 8, lines 7-12. To do this calibration, Sturm also uses a calibration target. See Col. 5, lines 60-65. Thus, Sturm also does not use an object at the surgical site for aligning left and right stereoscopic images (it uses a reference body having marks 144-152 such as shown in its FIG. 8) for aligning left and right stereoscopic images, and it does not maintain a working distance by periodically repeating the specified actions in claim 48.

Although Sturm does use marks 22-28 that are attached, for example, to the patient’s head, these marks are used to determine the patient’s body position, not for aligning left and right stereoscopic images. See Col. 11, line 64 to Col. 12, line 4.

Accordingly, claim 48 and its dependent claims 50-53 are also believed to be patentable under 35 USC 102(b) over Hori, as well as under 35 USC 103(a) over Hori in light of Sturm for the foregoing reasons. Claim 49 has been cancelled.

Claims 63-74 are newly added, and are respectively directed towards a method and stereoscopic imaging system for virtually varying a working distance of a stereoscopic imaging device for displaying portions of captured left and right images from the stereoscopic imaging device, which include limitations that are neither taught nor suggested by Hori or Sturm, alone or in combination with one another.

Claims 40, 43-45, 48, 50-55, 57-62 and newly added claims 63-74 are pending in the application. Claims 1-39, 41-42, 46-47 and 56 have been cancelled. Reconsideration of the rejected claims is respectfully requested and an early notice of allowance for all pending claims earnestly solicited.

Any additional required fees or overpayments are authorized to be deducted or credited to Deposit Account No. 503404.

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Respectfully Submitted,



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